

**VACCINES AND AGENTS FOR INDUCING IMMUNITY IN FISH AGAINST
RICKETTSIAL DISEASES, AND ASSOCIATED PREVENTATIVE THERAPY**

ABSTRACT

5

The use of the 17 kDa outer surface lipoprotein (OspA) of *Piscirickettsia salmonis*, or its homologues, as the basis of, or part thereof, a recombinant vaccine for salmonid rickettsial septicaemia and other rickettsial diseases is disclosed. Surface antigens of the bacterial pathogen *P. salmonis* are characterized and an immunoreactive 10 antigen, namely the 17 kDa outer surface lipoprotein OspA of *P. salmonis*, as well as the nucleic acid segment that encodes the OspA immunoreactive antigen, is identified and characterized. Diagnostic techniques including the use of hybridization probes and primers as well as the production of specific antigens and antibodies that may be used in immunization techniques for inducing immunity against *P. salmonis* and other 15 rickettsial diseases are disclosed, as are the development of recombinant vaccines for SRS and other rickettsial diseases based on the 17 kDa lipoprotein OspA. Augmentation of protective immunity by the inclusion of promiscuous T lymphocyte epitopes (TCE's) in fusion protein constructs in salmonids and to the use of bacterial protein inclusion bodies as a source of the protective immunogen is also disclosed.